



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO. | FILING DATE   | FIRST NAMED INVENTOR  | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
|-----------------|---------------|---|-----------------------------|------------------|
| 09/617,036      | 07/14/2000    | Woo Hyun Paik   | 0630-1127P                  | 6100             |
| 7590            | 07/30/2007    | Birch Stewart Kolasch & Birch LLP<br>P O Box 747<br>Falls Church, VA 22040-0747 | EXAMINER<br>HOYE, MICHAEL W |                  |
| ART UNIT        | PAPER NUMBER  |   |                             |                  |
|                 | 2623          |   |                             |                  |
| MAIL DATE       | DELIVERY MODE |   |                             |                  |
|                 | 07/30/2007    |   |                             | PAPER            |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 09/617,036             | PAIK ET AL.         |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Michael W. Hoye        | 2623                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 May 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 40-79 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 40-79 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 30 May 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____.                                     |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____.                         |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicants' arguments with respect to claims 40-79 have been considered but are moot in view of the new ground(s) of rejection as presented below.

Regarding the Applicants comments on pages 20-21 directed to the Kumar Provisional Patent Application No. 60/128,138, filed on April 7, 1999, the Applicants specifically state on the top of page 21 that, "the Office has not made available to Applicants a copy of that Provisional Patent Application..."

In response, the Examiner respectfully notes that a copy of the Kumar Provisional Patent Application was included with the Office Action mailed on 2/8/07 and is a part of the official record. If the Applicants did not receive this document, the Examiner will provide another copy of the document upon request.

### ***Claim Objections***

2. Claim 54 is objected to because of the following informalities: the words "the digital" which occur near the end of line 9 in the claim appear to lack antecedent basis. Appropriate correction and clarification is required.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2623

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 40-43, 47-48, 50, 52, 54 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracton et al (USPN 6,470,378), in view of Heinzelman et al (USPN 6,754,277).

Regarding claim 40, Tracton discloses a broadcasting service system (See Figs. 4, 7 and 9) for receiving television broadcasts (col. 7, lines 47-48 – MPEG encoded news broadcast, and col. 9, line 58 – col. 10, line 13 - where a common input device includes a satellite dish), and providing them directly to a mobile cellular network transmitting means to a mobile telephony terminal is met in-part by the support of other architectures including cellular-phone based browsers (col. 7, line 26 – col. 8, line 5). Although Tracton does not necessarily disclose providing the television broadcasts directly to a mobile cellular network transmitting means, the server/client architectures shown and described in Tracton clearly indicate that once the broadcast is converted into the proper format, the broadcast is sent directly to the appropriate client device via the corresponding network. In addition, the Heinzelman et al reference teaches providing television broadcasts directly to a mobile cellular network transmitting means as shown in Fig. 2, where video, audio and data (or multimedia) are compressed using international standard compression methods, such as the MPEG (including the MPEG-4 video compression standard) or H.263 standards, and are transmitted via a wireless cellular network to a multimedia terminal, such as a video cellular phone and/or web browser using the GSM standard (see col. 1, lines 10-65 and the entire document). Therefore, it would have been obvious to one of ordinary skill in the art to have combined the Tracton reference, which discloses “scaling” or transcoding

the original broadcast source content to allow display of the video stream on a low-resolution decoder, in addition to supporting other architectures, such as text-only pagers or cellular-phone based browsers, with the additional teachings of Heinzelman, which specifically discloses providing television broadcasts or compressed video (i.e. MPEG-4 video compression) directly to the mobile cellular network transmitting means and via the transmitting means to a mobile telephony terminal for the advantages of reducing the number of parts and processing involved, and more specifically, for providing the broadcasts directly to a mobile telephony terminal via a wireless cellular network. The claimed broadcast television receiver means for receiving a broadcast television signal is met by Figs. 4, 7 and 9, and col. 7, lines 47-48 of Tracton, which discloses a MPEG encoded news broadcast, and col. 9, line 58 – col. 10, line 13, where a common input device includes a satellite dish, as previously described above. Although, the Tracton reference does not explicitly show “receiving a broadcast television signal” in the Figures, it is inherent and/or well known that interactive server systems which provide a MPEG encoded news broadcast (or television broadcast) would have to have received the MPEG encoded news broadcast (or television broadcast) signal(s). In further support, the Howe reference (US 6,502,242) has been provided as evidence of an interactive server system 5, which receives broadcasts from content providers 41-44 (see Fig. 1 and cols. 7-10). Tracton discloses the claimed converting means (col. 7, line 35 – col. 8, line 5) for converting the received broadcast television signal into a video and audio signal (col. 4, lines 33-49, which may include an encoded news broadcast, also see col. 7, lines 47-48). The claimed in a format compatible with a signal and transmission standard of the mobile cellular telephone network is met in-part by re-coding and scaling the broadcast using the MPEG-4 standard as disclosed in

Art Unit: 2623

Tracton (see col. 5, lines 58-62, col. 6, lines 3-7 and col. 7, line 26 – col. 8, line 5). As previously stated above, the Traction reference clearly discloses that the original source content 250 may be a MPEG encoded news broadcast or “television broadcast” that is sent to a server or “broadcasting service system” which converts the signal into a format compatible with a signal and transmission standard of a mobile cellular telephone network is met in-part by re-coding the MPEG-2 coding of the broadcast as a MPEG-1, MPEG-4, or other format/standard as needed for transmission to client based system based on the client capabilities, where Tracton further teaches the use of other architectures including cellular-phone based browsers (see col. 4, lines 33-49; col. 5, lines 58-62; col. 7, line 26 – col. 8, line 5). Although, Tracton does not explicitly disclose a specific “signal and transmission standard of the mobile cellular telephone network”, this is met by the MPEG-4, H.263 and GSM standards as described in the Heinzelman reference above and as combined with Tracton. The claimed “and for providing the converted format video and audio signal directly to the mobile cellular network transmitting means” is met by the direct transmission taught by Heinzelman as previously described above. Heinzelman further discloses the claimed “wherein the mobile cellular network transmitting means is adapted to transmit the thusly converted video and audio signal to a mobile cellular telephone network subscriber via a transmission channel of the mobile cellular telephone network” as met by the GSM channel standard as previously described above.

Regarding claim 41, Tracton discloses the claimed television broadcast signal complies with a first signal standard for television broadcasting, the converted digital video and audio signal formats compatible with the mobile cellular telephone network comply with a second signal standard, and the first and second signal standards agree with a signal .

Art Unit: 2623

standard which is capable of converting between different transmission systems as described above (see col. 4, lines 33-49 and col. 7, lines 51-65). In addition to, the Heinzelman reference as combined with Tracton discloses the use of the MPEG standards, including MPEG-4, as well as H.263, and the GSM standard as described above in claim 40.

Regarding claim 42, Tracton further discloses a system wherein the first signal standard is the MPEG-2 standard, and the second signal standard is the MPEG-4 standard (col. 4, lines 33-49). In addition to, the Heinzelman reference as combined with Tracton discloses the use of the MPEG standards, including MPEG-4, as well as H.263, and the GSM standard as described above in claim 40.

Regarding claim 43, Tracton as combined with Heinzelman discloses a system as stated above in Claim 40. The claimed converting means comprises a transcoder which includes a decoding means which decodes digital video and audio data complying with a digital television broadcasting standard and then encodes the thusly decoded video and audio data into a format compatible with transmission over a communication channel of the mobile cellular telephone network, and converting-controlling means which controls an encoding rate of the transcoder to comply with a transmission rate of the mobile cellular telephone network is met by the server 100 and scaler 252, which transforms source content into a format compatible with transmission over a channel of the network, and also controls the encoding rate to comply with the network/terminal (see col. 5, lines 58-62 and col. 7, line 25 – col. 8, line 5), and the Heinzelman reference as combined with Tracton above specifically shows transmission over a communication channel of the mobile cellular telephone network as described above in claim 40.

Regarding claim 47, the Heinzelman reference as combined with Tracton further discloses a system wherein the transmitting and converting means transmits data through a connected transmission channel (wireless channel) between a mobile telephone subscriber terminal and a base station of the mobile cellular telephone network as shown in Fig. 2 of Heinzelman and as previously described above in claim 40.

Regarding claim 48, the Heinzelman reference as combined with Tracton further discloses a system wherein the converting and transmitting means allots at least one transmission channel on the mobile cellular telephone network, and transmits the video and audio signal through the allotted transmission channel as met by the wireless channel as shown in Fig. 2 of Heinzelman which uses the GSM standard as described above in claim 40.

Regarding claim 50, Tracton discloses the mobile telephony terminal (col. 7, lines 26-28), as described above in claim 40, comprising a digital video and audio data reception means (See Figure 4, 112), a decoding means (106), which decodes the received digital video and audio data received from the digital video and audio data reception means, and an outputting means which outputs the decoded video and audio signal (col. 9, lines 6-20), and more specifically, the Heinzelman reference as combined with Tracton, discloses the mobile telephony terminal (see Fig. 2) comprising a digital video and audio reception means for receiving digital video and audio data through the transmission channel of the mobile cellular telephone network; a decoding means for decoding the received digital video and audio data; and an outputting means which outputs the decoded video and audio signal for display and audio reproduction as stated in the sections of Heinzelman described above in Claim 40.

Art Unit: 2623

Regarding claim 52, Tracton further discloses a mobile telephony terminal wherein the mobile telephony terminal is a cellular phone (col. 7, line 27). In addition to, Heinzelman as used in combination with Tracton, specifically teaches a cellular phone (see col. 1, lines 27-29).

Regarding claim 54, the claimed broadcasting service system using a mobile cellular telephony terminal... is met by similar grounds as the rejection of claim 40.

Regarding claim 62, the claimed broadcasting service method for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal... is met by similar grounds as the rejection of claim 40.

5. Claims 44-46, 55-61 and 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracton et al., in view of Heinzelman et al, in further view of Margulis (USPN 6,263,503).

Regarding claim 44, Tracton and Heinzelman disclose the system as stated above in claim 40. Tracton and Heinzelman do not explicitly disclose that the converting means includes a digital signal converting means which converts an analog television broadcast signal into digital video and audio data... Margulis teaches a wireless television system (See Figure 1) that accepts a variety of inputs including analog audio/video (122 and 128). The input is then processed into a format that is compatible with the wireless client (col. 7, lines 36-44). The analog data is further digitized during this process (col. 7, lines 54-56). Therefore it would have been obvious to one of ordinary skill in the art to have combined the Tracton and Heinzelman references with the analog television broadcast conversion to digital capabilities of the Margulis reference for the advantage of providing the capability to convert analog broadcasts

Art Unit: 2623

to digital and transmit the broadcasts over a mobile cellular telephone network. One of ordinary skill in the art would have been led to make such a modification since it is well known to convert analog broadcasts to digital in the art of television broadcasting. The Tracton and Heinzelman references teach the additional claim limitations as previously described above in claim 43.

Regarding Claim 45, Tracton, Heinzelman and Margulis disclose the claimed transmitting means includes a means for putting the formatted digital video and audio signal onto the transmission channel of the mobile cellular telephone network, and a formatting-transmission means which formats and transmits the digital video and audio data with additional broadcasting information as described above in the relevant portions of claims 43 and 44.

Regarding Claim 46, Tracton and Heinzelman do not disclose a broadcasting service system wherein EPG data is formatted and transmitted with the video and audio data with additional broadcasting information. Margulis discloses a wireless television system as described above in claims 44-45. Margulis further discloses that EPG data is embedded in the television broadcast (col. 4, lines 44-55). This reads on the claimed EPG data is formatted and transmitted with the video and audio data and additional information. Margulis is evidence that ordinary workers in the art would appreciate the benefit of broadcasting TV data combined with EPG data to a portable display device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the system of Tracton and Heinzelman with the television source and EPG data of Margulis in order to allow a user easy access to a wide variety of programming when a regular television is not accessible and provide the additional benefits associated with an EPG.

Regarding claim 55, Tracton and Heinzelman disclose a system as stated above in claim 54. Tracton and Heinzelman do not explicitly disclose the claimed EPG data converting means... and additional information converting means as described in the claim. However, the Margulis reference discloses that the broadcasting service system includes EPG and additional data converting means that convert EPG data and additional information for selecting a digital broadcast channel into a format compatible with the mobile communication system (col. 4, lines 44-55 and col. 7, lines 36-64), as described in a similar manner in the rejection of claim 46 above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the system of Tracton and Heinzelman with the television source and EPG data of Margulis in order to allow a user easy access to a wide variety of programming when a regular television is not accessible and provide the additional benefits associated with an EPG.

Regarding Claim 56, Traction, Heinzelman and Margulis disclose a system as stated above in Claim 55. Margulis further discloses that the broadcasting service system transmits the EPG data and additional information as the agreeable/compatible format to the mobile communication system (col. 4, lines 51-55 and col. 7, lines 36-64).

Regarding Claim 57, Traction, Heinzelman and Margulis discloses a system as stated above in Claim 55. The EPG data converting means inherently includes a decoder or decoding means which decodes the inputted EPG stream of the digital broadcast signals. Further, it is inherent that there be a restoring means for retrieving the decoded EPG data in order to broadcast it to the users. In any digital system where data conversion occurs, there is inherently a memory (See Figure 6) that is used to store data to be processed. This reads

on the claimed database means that stores the information corresponding to the restored EPG data. Further Margolis discloses an EPG outputting means that outputs the EPG information from the data base corresponding to a subscriber request and a converting means that converts the additional information of the digital broadcast into a format agreeable to the mobile radio communication system (col. 4, lines 51-55).

Regarding Claim 58, the claimed broadcasting service system for enabling the reception of television broadcasts by a mobile cellular telephone subscriber terminal, comprising: a digital signal processing means for receiving a digital television broadcasting signal and providing a television broadcasting program to a mobile cellular telephone network, as well as the claimed transcoder and transmission means is met by the combination of the Tracton and Heinzelman references as described above in the rejection of claims 40 and 43. Tracton and Heinzelman do not explicitly disclose the claimed medium storing means for storing broadcast information processed by the digital signal processing means; and a data processing and converting means for converting EPG data and additional information of the digital television broadcasting signal processed by the digital signal processing means... Margulis discloses a broadcasting service system (See Figure 1) using mobile subscriber terminal (158) comprising a DSP means for receiving a digital broadcast signal and providing a broadcast program to a mobile communication network/system (col. 5, lines 15-19). Further disclosed is a media storage means (see Figure 6, 646) for storing the broadcast program processed by the digital signal-processing means (518). Further disclosed is a data processing and converting means for converting the EPG data and additional information processed by the DSP means into a signal format

compatible with the mobile network/system as stated above in claims 54-57. Further disclosed is a transcoder (cols. 7-8, lines 36-10 and col. 8, lines 44-55) and transmission means (156) for receiving the A/V signals of the broadcast and additional information processed by the DSP means and converting it into a signal format compatible with the mobile...network/system and outputting it. In addition, Margulis discloses that in alternate embodiments, remote TV 158 may be implemented as a personal digital assistant (PDA) device, a note pad personal computer or any other desired display device (col. 5, lines 27-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the Tracton and Heinzelman references with the additional teachings of Margulis for the advantage of including EPG data and additional information of the digital television broadcasting signal with the broadcast to a mobile cellular telephone in order to provide EPG functionality for use on a cellular telephone.

Regarding Claim 59, Tracton, Heinzelman and Margulis disclose the system as stated above in Claim 58. Margulis further discloses that the DSP means includes a tuner (120, 132) for selecting the digital broadcast signal received from the transmission medium (such as a television broadcast (128), satellite broadcast (134) and cable broadcast (122)). It is inherent that these tuners have a demodulating means (612) for restoring the selected digital broadcast signal. Further disclosed is a demultiplexer (col. 11, lines 42-46) for fetching the EPG and additional information from the demodulated signal, and a decoder for decoding the A/V signals (See Figure 5, 538).

Regarding Claim 60, Tracton, Heinzelman and Margulis disclose the system as stated above in claim 58. Margulis discloses that the data processing and converting means

Art Unit: 2623

includes an EPG and additional information data decoding means as stated above in Claim 57. Further, Margulis discloses a signal converter, or converting means, as stated above in Claim 57. It is inherent that the signal conversion means have a protocol converting means for converting the converted EPG data into a protocol compatible with the mobile communication system in order for the client to be able to receive the EPG and additional information data.

Regarding Claim 61, Tracton, Heinzelman and Margulis disclose the system as stated above in Claim 58. Margulis further discloses that the transcoder and transmission means include a transcoder (538) for transcoding the digital broadcast A/V signal into a format agreed with the mobile communication system. Further Margulis as combined with Tracton and Heinzelman discloses a system that reduces the bit rate of the A/V data (col. 7, lines 65-67). This reads on the claimed transmission rate control means for controlling the transmission rate agreeable to the mobile network. Further it is inherent that there be a converting means for converting the output of the data processing and converting means into a data protocol agreeable to the network in order for the clients to be able to receive the data properly. It is further inherent in such a digital system that there be a synchronization processing means for synchronizing information during transcoding and protocol converting such that time-based data be delivered in the appropriate order to the viewers. Further disclosed is a transmitting means (156) for transmitting the data in real time over the network/system. Heinzelman also teaches a transmitting means for transmitting the processed data in real time by allotting it a transmission channel of the mobile cellular

telephone network as met by the use of the GSM channel standard as previously described above in the rejection of claim 40.

Regarding Claim 63, Tracton and Heinzelman disclose the method as stated above in Claim 62. The claimed (a) converting the video and audio data of the digital television broadcasting signal into data compatible with the transmission standard and transmission rate of the mobile cellular telephone network is met by the combination of the Tracton and Heinzelman references as previously described above in the rejection of claim 40. Tracton and Heinzelman do not explicitly disclose the claimed (b) converting EPG data and additional information of the digital television broadcast signal into information compatible with the transmission standard and transmission rate of the mobile cellular telephone network. However, the Margulis reference discloses that the broadcasting service system includes EPG and additional data converting means that convert EPG data and additional information for selecting a digital broadcast channel into a format compatible with the mobile communication system (col. 4, lines 44-55 and col. 7, lines 36-64), as described in a similar manner in the rejection of claim 46 above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the system of Tracton and Heinzelman with the television source and EPG data of Margulis in order to allow a user easy access to a wide variety of programming when a regular television is not accessible and provide the additional benefits associated with an EPG.

Regarding Claim 64, Tracton and Heinzelman disclose the method as stated above in Claim 62. Tracton and Heinzelman do not explicitly disclose the claimed (a) synchronization-controlling synchronization request information of the converted digital

Art Unit: 2623

video and audio data as well as EPG (Electronic Program Guide) data and additional information of the digital television broadcast signal; (b) converting the EPG data and additional information into a protocol compatible with the mobile cellular telephone network; and (c) allotting a transmission channel of the mobile cellular telephone network and putting the digital data compatible with the protocol of the mobile cellular telephone network on the transmission channel. However, the Margulis reference discloses that the transmission process includes the steps of synchronization of the converted digital A/V data, EPG data and additional information, as well as, converting the data into a protocol agreeable to the mobile communication network/system, and allotting a certain transmission channel and putting the digital data corresponding to the protocol of the system on the channel as stated above in the rejection of claim 61. In addition, the converting and allotting a transmission channel of the mobile cellular telephone network are further or more specifically met by the Heinzelman reference as previously described above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have further modified the system of Tracton and Heinzelman with the television source and EPG data of Margulis in order to provide synchronization of digital video and audio data, EPG data, and additional information of the digital television broadcast signal, as well as convert the data into a protocol or standard that is compatible with the mobile cellular telephone network, in order to allot a transmission channel of the mobile cellular telephone network and put the data on the transmission channel, and thereby provide additional benefits associated with EPG data and addition information to a user of a mobile cellular telephone on the respective network.

6. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tracton et al, in view of Heinzelman et al, in further view of Peters et al. (USPN 6,246,430).

Regarding Claim 49, Tracton and Heinzelman disclose the system as stated above in Claim 40. What is not disclosed however is the inclusion of an identifying means that identifies an individual mobile cellular telephone subscriber from among all subscribers of the mobile cellular telephone network, and a payment-demanding means that demands a payment corresponding to reception of the A/V signal for the identified subscriber. Peters discloses a video telephone system (See Figure 2) with a video *server* (col. 2, lines 32-34). The users of the video telephone must insert a chip-card into the video telephone, thereby identifying themselves to the device (col. 4, lines 1-12). A subsequent charge is issued for the purchase (col. 4, Line 14-16). Peters is evidence that ordinary workers in the art would appreciate the ability to identify an individual subscriber and charge for services in a video telephone system. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tracton and Heinzelman with the identification and charging of Peters in order to implement pay-per-view type services on a wireless video transmission system.

7. Claims 51 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tracton et al., in view of Heinzelman et al, in view of Margulis, in further in view of Legall et al. (USPN 6,005,565).

Regarding Claim 51, Tracton and Heinzelman disclose the system with the mobile telephony terminal as stated above in claims 40 and 50. What Tracton and Heinzelman do not disclose, however, is the mobile cellular telephone terminal includes a receiving-decoding means which receives and decodes an EPG signal from a converted television broadcast signal transmitted through the mobile cellular telephone network. Margulis discloses a wireless television system (See Figure 1) that accepts a variety of inputs including analog audio/video (122 and 128) including a cable TV signal that is received by a cable decoder (col. 4, lines 22-29). The input is then processed into a format that is compatible with the wireless client (col. 7, lines 36-44). The analog data is further digitized during this process (col. 7, lines 54-56). EPG data is embedded in the television broadcast (col. 4, lines 44-55). It is inherent that the client be able to receive and decode the EPG signal in order to display it to the user. Margulis is evidence that ordinary workers in the art would appreciate the benefit of broadcasting TV data combined with EPG data to a portable display device. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tracton and Heinzelman with the television source and EPG data of Margulis in order to allow a user easy access to a wide variety of programming when a regular television is not accessible.

What Tracton, Heinzelman, and Margulis do not disclose, however, is a transmitting means which transmits a television channel selection request based upon the decoded EPG data to the mobile cellular telephone network. Legall discloses an EPG system (See Figure 2) where a user is able to search the EPG (i.e., various types of television broadcasts) and

Art Unit: 2623

other sources of information (i.e., the internet, see col. 2, line 9 – col. 3, line 27) by issuing a search request to a search engine, which interacts with external information resources such as the Internet or television broadcasts (col. 3, lines 11-16). Further the system is operable to “offload” the handling of a search to the content provider so the receiving user's system does not have to perform the search (col. 5, lines 44-46). This reads on the claimed transmitting means which transmits a television channel selection request based upon the decoded EPG data... Legall is evidence that ordinary workers in the art would appreciate the ability to search an EPG, including television broadcast information and web information, as well as have the capability to “offload” the handling of a search to the content provider as described above. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Tracton, Heinzelman and Margulis with the EPG searching of Legall in order to allow a user to quickly locate information of interest.

Regarding Claim 53, Tracton also discloses the mobile telephony terminal includes a browser (col. 7, lines 26-28) and a web server (col. 5, lines 16-19), and Heinzelman as combined with Tracton also discloses video cellular phones and wireless web browsing (col. 1, lines 27-29). Further, Tracton, Heinzelman, Margulis and Legall disclose a system wherein EPG data is transmitted to the client as stated above in claim 51. The combination of Tracton, Heinzelman, Margulis and Legall would therefore disclose the utilization of the web server and browser to access and search the EPG data and additional information transmitted from the mobile cellular telephone network.

8. Claims 65 and 69-78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margulis, in view of Kumar (USPN 2006/0105804), in further view of Heinzelman et al.

Regarding Claim 65, Margulis discloses a broadcasting service method using a mobile subscriber terminal as stated above comprising transmitting a TV broadcast signal having multiplexed EPG data to a subscriber through a mobile communication system as stated above. It is inherent in such systems that the EPG data may be transparently pushed to the subscriber's terminal or downloaded upon request. Further, it is well known in the art that a channel may be selected by searching EPG data. Margulis also discloses converting the A/V data of a selected channel into the data compatible with the standard of the mobile communications system and providing the converted format video and audio signal directly to a transmitter; and transmitting the data through the channel of the system using the transmitter as stated above. It is inherent that at least one transmission channel be allotted for transmission of data, be it a physical channel (e.g. range of RF bandwidth) or a virtual channel on a digital transmission medium (e.g. TCP/IP port). As previously stated above, Margulis does not explicitly disclose the use of a "mobile cellular telephone subscriber terminal and/or network". However, Margulis does disclose that in alternate embodiments, remote TV 158 may be implemented as a personal digital assistant (PDA) device, a note pad personal computer or any other desired display device (col. 5, lines 27-34). Kumar teaches the use of "smart cell phones" which are devices that combine the capabilities of cell phones and electronic organizers (i.e. PDAs, see pg. 1 [0004] and [0008], also see pg. 2 [0022]-[0025]), and Heinzelman explicitly teaches providing television broadcasts directly to a mobile cellular network transmitting means as shown in Fig. 2,

where video, audio and data (or multimedia) are compressed using international standard compression methods, such as the MPEG (including the MPEG-4 video compression standard) or H.263 standards, and are transmitted via a wireless cellular network to a multimedia terminal, such as a video cellular phone and/or web browser using the GSM standard (see col. 1, lines 10-65 and the entire document). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the invention of Margulis with the cell phone/PDA device of Kumar and the video cell phone and wireless web browsing mobile cellular transmission network of Heinzelman for the advantage of integrating the features and capabilities of a cell phone with the additional features and capabilities of a PDA into a signal integrated device and transmitting the EPG data and television broadcasts via the mobile cellular telephone network to a subscriber's mobile cellular telephone terminal.

Regarding Claims 69-70, Margulis discloses a broadcasting service system using a mobile subscriber/communication terminal as stated above comprising an analog broadcasting reception means which receives an analog television broadcasting system as stated above. Further disclosed is a digital converting means which converts the analog broadcasting signal received by the analog broadcasting reception means into a digital signal and for providing the converted format video and audio signal directly to an allotting transmitting means as stated above. Margulis further discloses that the system includes an EPG signal and additional information abstracting means for abstracting the EPG signal and additional information and an encoding-converting means for converting the EPG signal and additional information into a signal agreeing with the mobile communication

network/system as stated above. An encoding-converting means is disclosed which converts the digital broadcasting signal converted by the digital converting means into a signal agreed with the mobile radio communication network/system and an allotting-transmitting means is disclosed which allots the converted digital broadcast signal by the encoding-converting means on the certain transmission channel of the system and transmits it as is stated above. Also, as previously stated above, Margulis does not explicitly disclose the use of a “mobile cellular telephone subscriber terminal and/or network”. However, Margulis does disclose that in alternate embodiments, remote TV 158 may be implemented as a personal digital assistant (PDA) device, a note pad personal computer or any other desired display device (col. 5, lines 27-34). Kumar teaches the use of “smart cell phones” which are devices that combine the capabilities of cell phones and electronic organizers (i.e. PDAs, see pg. 1 [0004] and [0008], also see pg. 2 [0022]-[0025]), and Heinzelman explicitly teaches providing television broadcasts directly to a mobile cellular network transmitting means as shown in Fig. 2, where video, audio and data (or multimedia) are compressed using international standard compression methods, such as the MPEG (including the MPEG-4 video compression standard) or H.263 standards, and are transmitted via a wireless cellular network to a multimedia terminal, such as a video cellular phone and/or web browser using the GSM standard (see col. 1, lines 10-65 and the entire document). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the invention of Margulis with the cell phone/PDA device of Kumar and the video cell phone and wireless web browsing mobile cellular transmission network of Heinzelman for the advantage of integrating the features and capabilities of a cell phone

Art Unit: 2623

with the additional features and capabilities of a PDA into a signal integrated device and transmitting the EPG data and television broadcasts via the mobile cellular telephone network to a subscriber's mobile cellular telephone terminal.

Regarding Claims 71-72, Margulis, Kumar and Heinzelman disclose a system as stated above in Claim 69 as well as in claim 70. The Heinzelman discloses the use of the MPEG 4 format as well as H.263 as previously described above in the rejection of claim 69.

Regarding Claim 73, Margulis discloses a mobile communications subscriber terminal as stated above comprising a TV broadcasting reception means (See Figure 7, 724), that receives a broadcasting signal that includes motion picture information as stated above. Further disclosed is a decoding means (732), which restores the received broadcast signal by the broadcasting reception means. An outputting means is disclosed (212) which outputs the restored broadcast signal by the decoding means for being watched on the mobile radio communication system. A selecting means (See Figure 3, 312) is disclosed for selecting the broadcasting signal reception mode.

What is not disclosed, however, is a communication processing means that receives a call signal provided to the mobile cellular telephone network and restore-outputs the call signal, and coding-outputs a subscriber call signal through the mobile cellular telephone network. Kumar discloses the use of "smart cell phones" which are devices that combine the capabilities of cell phones and electronic organizers (i.e. PDAs, see pg. 1 [0004] and [0008], also see pg. 2 [0022]-[0025]) as previously described above. In addition to, Heinzelman explicitly teaches providing television broadcasts directly to a mobile cellular

Art Unit: 2623

network transmitting means as shown in Fig. 2, where video, audio and data (or multimedia) are compressed using international standard compression methods, such as the MPEG (including the MPEG-4 video compression standard) or H.263 standards, and are transmitted via a wireless cellular network to a multimedia terminal, such as a video cellular phone and/or web browser using the GSM standard (see col. 1, lines 10-65 and the entire document). It is inherent in such phones that there be a communication processing means as claimed above. Further, in a cellular phone enabled with mobile video reception, a selection means for selecting broadcast signal mode or mobile communication telephone call mode is inherent. Kumar and Heinzelman are evidence that ordinary workers in the art would recognize the benefits of using a cellular phone platform in a mobile communication subscriber terminal with video reception. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Margulis with Kumar and with the communication processing means and selection means of Heinzelman in order to provide phone service as part of the mobile cellular telephone subscriber terminal.

Regarding Claim 74, Margulis, Kumar and Heinzelman disclose a system as stated above in Claim 73. Margulis further discloses a system wherein the broadcast reception means includes an antenna (720) and a tuner (724), the decoder includes demodulation means (732) for demodulating video and audio signals of an analog television broadcasting signal selected from the tuner, and an outputting means includes a speaker (770) for outputting the demodulated audio signal and the mobile communication terminal (212) for displaying the demodulated video signal when the broadcast signal is an analog television broadcast signal.

Regarding Claim 75, Margulis, Kumar and Heinzelman disclose a system as stated above in Claim 73. Margulis further discloses a terminal wherein the broadcasting reception unit includes a bit stream reception means (720) for receiving a bit stream from a terminal antenna and a digital broadcast signal, the decoder (732) includes a demodulation and restoring means (724) for demodulating video and audio signals of the digital broadcast signal and restoring the demodulated video and audio signals, and the outputting means (770) includes a speaker for outputting the restored audio signal on a monitor (212) for displaying the restored video signal on the mobile communication terminal when the broadcast signal is the digital broadcast signal.

Regarding Claims 76-78, Margulis, Kumar and Heinzelman disclose a system as stated above in Claims 73-74 respectively. Heinzelman further discloses that the mobile communication subscriber terminal is a cellular phone as previously stated above.

9. Claims 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Margulis, in view of Kumar, in view of Heinzelman et al, in further view of Peters et al.

Regarding Claims 66-68, Margulis, Kumar and Heinzelman disclose the method as stated above in Claim 65. What is not disclosed, however, is a method wherein a right for watching the digital broadcast is granted to a subscriber and the EPG information is provided to the subscriber after confirming and certifying the right. Peters discloses a video telephone system (See Figure 2) with a video server (col. 2, lines 32-34). The users of the video telephone must insert a chip-card into the video telephone, thereby identifying themselves to the device (col. 4, lines 1-12). A subsequent charge is issued for the

Art Unit: 2623

purchase (col. 4, Line 14-16). This reads on the claimed right for watching the digital broadcast is granted to the subscriber. If the user does not authenticate, the video telephone unit remains locked (col. 4, Line 4). This reads on the claimed providing information to the subscriber after confirming and certifying the right. Peters is evidence that ordinary workers in the art would appreciate the ability to restrict access to content based on subscriber identification and payment in a wireless television system. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method of Margulis, Kumar and Heinzelman with the identification, payment and privileges of Peters in order to prevent unauthorized access to certain content in a video telephone system.

10. Claim 79 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tracton et al, in view of Heinzelman et al, in view of Peters, and in further view of Margulis.

Regarding claim 79, the claim is rejected based on the combination of the Tracton, Heinzelman, Peters, and Margulis references, as previously described above in the rejection of claims 40, 49 and 46, which are related in a similar manner to the limitations of claim 79.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dunlop, J., Potential for compressed video transmission over the GSM HSCSD service,

16 January 1997, Electronics Letters, Vol. 33, No. 2, pages 121-122.

Hsu et al., Rate Control for Robust Video Transmission over Burst-Error Wireless Channels, May 1999, IEEE Journal on Selected Areas in Communications, Vol. 17, No. 5, pages 756-773.

Khansari et al., Low Bit-Rate Video Transmission over Fading Channels for Wireless Microcellular Systems, February 1996, IEEE Transactions on Circuits and Systems For Video Technology, Vol. 6, No. 1, pages 1-11.

Puri et al., MPEG-4: An object-based multimedia coding standard supporting mobile applications, 1998, Baltzer Science Publishers BV, Mobile Networks and Applications 3 (1998) 5-32, pages 5-32.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael W. Hoye whose telephone number is **571-272-7346**. The examiner can normally be reached on Monday to Friday from 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at **571-272-7353**.

Art Unit: 2623

**Any response to this action should be mailed to:**

Please address mail to be delivered by the United States Postal Service (USPS) as follows:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

United States Patent and Trademark Office  
Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Some correspondence may be submitted electronically. See the Office's Internet Web site <http://www.uspto.gov> for additional information.

**Or faxed to: 571-273-8300**

**Hand-delivered responses should be brought to the Customer Service Window at the address listed above.**

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to customer service whose telephone number is **571-272-2600**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Art Unit: 2623

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at **866-217-9197** (toll-free).

Michael W. Hoye

July 26, 2007

  
ANDREW Y. KOENIG  
PRIMARY PATENT EXAMINER  
*acting SPE*